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Please find below and/or attached an Office communication concerning this application or proceeding.

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/799,980
Filing Date: March 12, 2004
Appellant(s): TURUNG, BRIAN E.

MAILED

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GROUP 3600

Brian E. Turung
Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 5-18-07 appealing from the Office action mailed 11-2-06.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

3,945,593	Schanzer	3-1976
4,924,401	Bice et al.	5-1990

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 23-26, 34-36, 39, and 40 are rejected under 35 U.S.C. 102(b) as being anticipated by Schanzer (US003945593A).

Per claim 23, Schanzer teaches a flight control apparatus that includes a comparator device that compares actual flight parameter data to predefined flight parameter data (18, 24; figure 1), and a navigational controller (26, 28, 30; figure 1) that takes control of at least one navigational control of the aircraft after the data deviates beyond a defined value (20, 22; figure 1).

Per claims 24 and 25, Schanzer teaches that the flight parameter data includes altitude (16, figure 1) and aircraft orientation (10, figure 1).

Per claim 26, Schanzer teaches controlling the navigation control to cause the deviation to cease deviating (column 4, line 50 - column 5, line 23).

Per claim 34, Schanzer teaches that the navigation control includes control of throttle, elevator, and spoiler (column 6, lines 43-49).

Per claim 35, the system of Schanzer is located within the cockpit (20, 22; figure 1) and parts outside (26, 28, 30; figure 1).

Per claim 36, Schanzer teaches three servomotors to perform the control such that any one can still perform the functions of the invention if one fails.

Per claims 39 and 40, Schanzer teaches defined values (column 6, line 35 and 38) that may be constant or changing depending on the actual flight of the aircraft.

Claims 44-48, 52, 53, 55, 56, 60, and 61 are rejected under 35 U.S.C. 102(b) as being anticipated by Bice et al. (US004924401A).

Per claim 44, Bice teaches a method of at least partially controlling an aircraft that has deviated from at least one predefined flight parameter including at least one predefined flight parameter for at least a portion of the flight path into a database (column 13, lines 56-66), monitoring at least one flight parameter during the flight of the aircraft, comparing at least one predefined flight parameter, and causing an emergency navigational system to activate a navigational controller (column 4, lines 4-47).

Per claims 45 and 46, the flight parameter taught in Bice is altitude.

Per claims 47 and 48, Bice teaches that the control causes the aircraft to deviate from the flight path and take a new flight path to avoid impacting the ground.

Per claim 52 and 53, Bice teaches a digital data storage database that is removable from the vehicle; all parts are on some level removable from an aircraft.

Per claim 55, Bice teaches that the navigational control at least includes control of the aircraft flap (column 5, lines 15-19).

Per claim 56, the system of Bice is located within the cockpit (column 5, lines 21-29) and parts outside (column 5, lines 30-32).

Per claims 60 and 61, Bice teaches defined values (column 14, lines 49-52) that may be constant or changing depending on the actual flight of the aircraft.

Claims 27, 31 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schanzer in view of Bice.

Per claims 27, 31 and 32, Schanzer teaches the invention as explained in the rejection of claim 23. Furthermore, Schanzer teaches that one of the parameters to be monitored is the aircraft altitude (16, figure 1), with a commanded value input (22, figure

1). However, Schanzer does not teach a database and following a new flight path. Bice teaches a digital data storage database (column 13, lines 40-66) for terrain data useable for altimeter information that is customarily removable from the vehicle, such as optical media (CDROM, DVD, etc.); and following a new predefined flight path (figure 4). It would have been obvious to one of ordinary skill in the art, at the time of invention, to include a database for flight parameter information and flight path in the system of Schanzer, in order to aid in the setting of a commanded value and to control recovery of the original flight path.

Claim 57 is rejected under 35 U.S.C. 103(a) as being unpatentable as obvious over Bice.

Per claim 57, Bice teaches the invention as explained in the rejection of claim 44. Bice does not teach a secondary emergency navigational system. However, providing redundancy of flight control elements in the avionics industry would have been well known to one of ordinary skill in the art at the time of the invention. Flight controls are of critical importance and in case of failure backup systems are commonly provided. It would have been obvious to one of ordinary skill in the art, at the time of invention, to provide for a redundant system in Bice, in order to provide for a backup in the case of failure, as is well known and commonly found in aircraft flight control systems.

(10) Response to Argument

The first issue argued relates to claim 23 and the suggestion that the prior art of Schanzer is always engaged during the flight of the aircraft and doesn't react "after some event". This argument is not convincing since Schanzer operates by eliminating

deviations from a desired flight path. If there is not a deviation, the system will not be providing a control signal. While the invention of Schanzer does constantly monitor the flight path, it is not constantly initiating control. This is exactly the same as how Appellant's invention is disclosed as operating. Appellant also argues that the prior art does not correlate a flight parameter to a particular time and/or particular location as to control the navigation of the aircraft. The prior art discloses controlling elevation (altitude) deviations on column 3, lines 58-60, and column 4, lines 50-67. This reads on the "location" requirement of the claim. The arguments mention in the first paragraph of page 6 that Schanzer discloses only "a single navigation system that controls the navigation of the aircraft," from this statement it is apparent that Appellant is reading limitations into the claims since the claims do not require more that one navigation system.

The second issue presented by Appellant is that "Bice does not disclose, teach or suggest the use of predefined flight parameter data that is correlated to a particular time and/or particular location so as to control the navigation of the aircraft." This argument is not convincing because Bice discloses using an onboard terrain database when determining when to perform a "flyup" on lines 44-66, on column 13. In other words, the control to avoid a ground collision is based on data from a database of ground heights for many different locations. This database is most certainly predefined flight parameter data. The flight paths taken when initiating flyups are all pre-programmed and take the form dictated by the maps provided in figures 6-10. The

limitation that the database is at least partially removable from the aircraft is met by the prior art since all parts of an airplane are at least partially removable.

The third issue deals with a motivation to combine the references. The recent KSR ruling forecloses the argument that a specific teaching, suggestion, or motivation is required to support a finding of obviousness. Appellant again argues that Bice does not teach the aircraft entering into a predefined flight path. This assertion is incorrect and was addressed above. Appellant has simply combined known elements in a known manner to yield predictable results.

The fourth issue Appellant argues is whether redundancy in aircraft control systems is obvious. It is quite clear to one of ordinary skill in the art that redundancy of control systems in an aircraft are known and desirable. At the very least, it is instantly obvious what happens once one system fails and you can no longer control an aircraft. There are also legal requirements for redundancy before the FAA can certify an aircraft for flight. Also, mere duplication of parts has been held by the courts to only require routine skill in the art.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Brian J. Broadhead

Conferees:

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